Energy Scavenger Hunt

Hello fellow energy explorers! I'm excited to be searching for the secrets and treasures that can be found within the energy that we use every day! You can find the answer here on the **EIA Energy Kid's Page** (http://www.eia.doe.gov/kids/).

Name: _____

Date: _____

Homeroom: _____

Explore non-renewable sources at:
http://www.eia.doe.gov/kids/energyfacts/ index.html

Our first source, **oil**, really is a buried treasure! I know that we can find oil by drilling deep underground, but what is oil formed from?

We can process oil into a lot of useful fuels to run our cars, trucks, and even airplanes. Oil is used for making lots of other valuable products that we use every day. Can you name five of those items?

There are a lot of energy treasures that can be found underground. Oil is a liquid, but what is this gas down here? It is **natural gas**! We use natural gas to heat our homes and to make electricity. Because it is a gas, what is the best way to transport it?

Coal is another nonrenewable source that can be found underground. It is a solid, so most coal is transported by

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But first we have to get the coal out of the ground. What are the two methods used to mine coal out of the ground so that we can use it to make electricity?

Our final non-renewable source also starts in the ground, but it is an element, not a fossil fuel like oil, natural gas, and coal. We don't get energy by burning it. To release the energy from **uranium**, we split the atoms into smaller atoms, releasing heat energy. This process is known as

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While uranium doesn't release air pollutants, the waste created is highly radioactive. Right now, the waste is safely handled on site, but in the future, the U.S. Department of Energy will store spent fuel in Nevada at

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Explore renewable sources at:
http://www.eia.doe.gov/kids/energyfacts/index.html

While there are many valuable treasures underground, renewable resources are sources that have unlimited amounts of energy for us. **Solar** energy is an excellent example of renewable energy. What tool is the most commonly used to convert solar energy into electricity?

Wind energy, another nonrenewable source, has a lot to do with the sun too. How is wind made?

Not all renewable sources are above ground: some are below the earth's surface, just like our non-renewable sources. **Geothermal** energy is heat from the earth that we can use to heat our homes or to create electricity. There are certain areas of the world that have more geothermal activity. This string is known as

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In addition to fossil fuels, we can also burn natural material to create heat. This is known as **biomass**. When people burn garbage to create electricity, this is an example of biomass used as an energy source. The most common and longest used form of biomass is

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You can also use biomass to fuel your car. We call these biofuels. Two common biofuels made from corn, soybeans, and used grease are

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We have traveled the earth looking for energy and have found energy from the sun, the wind, trees, and even underground. Where else haven't we looked? Water! Energy from moving water is usually called **hydropower**. Evaporation and precipitation are two important parts in the

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which is an important cycle that keeps water moving. The water in rivers is controlled by dams and runs through turbines to spin generators and create electricity. When a dam is put on a river, it may interrupt the natural path of some fish. Hydro plants install

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to help salmon swim upstream to reproduce.

Explore electricity at:
http://www.eia.doe.gov/kids/energyfacts/sources/electricity.html

Now that we have explored energy sources, let's discover the secrets of electricity. Whose kite experiment helped scientists understand the principles of electricity?

The other important thing that we need to know to understand electricity is that everything in the universe is made of tiny, tiny things called

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They are made up of tiny parts called neutrons, protons, and electrons. Electricity is moving electrons. In order for the electrons to move, they need a closed loop, called a

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Electricity is usually created in power plants and moved to our homes and businesses through transmission lines. How is electricity measured?

Explore **uses of energy** at:
http://www.eia.doe.gov/kids/energyfacts/uses/consumption.html

We use many different energy sources in our home. What is the number one use of energy in homes?

Another place that we use a lot of energy is in our cars and trucks. About how many vehicles are in the United States?

Learn about **energy efficiency** at:
http://www.eia.doe.gov/kids/energyfacts/saving/efficiency/savingenergy.html

Now that you've learned so much about energy, you may want to know how to make smart energy decisions in our homes. Do you know which type of light bulbs use ¼ of the energy used by incandescent bulbs?

Do you know the three Rs that help save energy and natural resources?

Explore the **forms of energy** at:
http://www.eia.doe.gov/kids/energyfacts/science/formsofenergy.html

While we are using energy in our home, scientists are studying energy in labs so that they understand the science of energy and can help develop new ways to use energy in the future. You can be an energy scientist too! What are the two categories that all forms of energy can be put into?

Now that we have completed our energy adventure, you are an energy expert!

Print your certificate at:
http://www.eia.doe.gov/kids/certificate.gif.